

Claims Pending and Amended after Third Office Action

- 1 1. (presently amended) An expandable hoop support for a flexible
2 tube having a nominal opening and a target site having an
3 unsupported aperture with an aperture size, comprising:
4 a. a preformed hoop composed of material disposed to form
5 a first coil which first coil is disposed to form a
6 second coil having an outer diameter, having memory
7 retaining properties and having one of a rounded and a
8 ball end, wherein said second coil further comprises
9 a beginning and an ending longitudinally disposed
10 sections each having substantially uniformly spaced
11 second coil loops, and
12 a middle section disposed between and contiguous
13 with said beginning and end sections and comprising a
14 loop having a loop spacing greater than said beginning
15 and ending longitudinally disposed sections loop spacing,
16 said middle section loop spacing being sufficient to
17 provide non-occluding blood flow therethrough; and
18 b. cylindrical delivery means for constraining said
19 second coil in to a linear configuration wherein said
20 deliver means and said coil are adapted for insertion
21 into said flexible tube at a target site unsupported
22 aperture size and said delivery means is then removed,
23 said hoop will then reconfigure to said second coil
24 configuration wherein said double coil outer diameter is
25 configured to be larger than said target site unsupported
26 aperture size and configured to urge said target site

27 aperture to said flexible tube nominal opening.

1 2. (previously amended) The expandable hoop support of claim 1
2 wherein said delivery means is a delivery tube arranged to fit
3 within one of said first and said second coil.

1 3. (previously amended) The expandable hoop support of claim 1
2 wherein said delivery means is a delivery tube arranged to fit over
3 one of said first and said second coil.

1 4. (previously amended) The expandable hoop support of claim 1
2 wherein said hoop comprises a stent.

1 5. (previously amended) A procedure for opening a coronary artery
2 having a nominal opening size adjacent a target having at least a
3 partial occlusion thereof, comprising the steps of:

- 4 a. determining an artery structure nominal opening size;
- 5 b. providing a preformed hoop composed of a primary coil
6 of material having one of a rounded and a ball end said
7 primary coil being wound to form a secondary coil having
8 an outer diameter matching said nominal opening size, and
9 instilling memory retaining properties into said
10 preformed hoop to urge said material into said double
11 coil;
- 12 c. providing a cylindrical delivery means for
13 constraining said secondary coil into a linear

14 configuration;
15 d. inserting said hoop and said delivery means into an
16 artery at said target site having an unsupported aperture
17 size less than said nominal opening size; and
18 e. removing said delivery means whereby said hoop remains
19 in said artery to support said artery in an open position
20 wherein said secondary coil outer diameter is larger than
21 said target site unsupported aperture size and said
22 secondary coil is configured to urge said target site
23 aperture to said nominal opening size.

1 6. (previously amended) The procedure of claim 5 wherein said
2 deliver means is a rod arranged to fit within said primary coil.

1 7. (previously amended) The procedure of claim 5 wherein said
2 delivery means is a delivery tube arranged to fit over said primary
3 coil.

1 8. (previously amended) The procedure of claim 5 wherein said step
2 of inserting comprises the step of inserting said delivery means
3 into a coronary artery.

1 9. (previously amended) A vessel support system for support of at
2 least a partial occlusion target site in a vessel having adjacent
3 regions with a nominal opening size, comprising:
4 a preformed hoop comprising a wire wound in primary loops

5 therealong having one of a rounded and a ball end, said wire loops
6 being further wound to form secondary loops therealong and having
7 an outer diameter matching said nominal opening size, wherein

8 said secondary loop keep outer diameter is greater than
9 a vessel target site aperture and sized to urge said aperture
10 to said nominal opening size, wherein said secondary loop
11 further comprises

12 a beginning and an ending longitudinally disposed
13 sections each having substantially uniformly spaced
14 secondary coil turns, and

15 a middle section disposed between and contiguous
16 with said beginning and end sections and comprising a
17 turn having a spacing greater than said beginning and
18 ending longitudinally disposed sections turn spacing,
19 said middle section turn spacing being sufficient to
20 provide non-occluding blood flow therethrough.

1 10. (previously amended) The vessel support system of claim 9,
2 further including

3 a delivery means for constraining said secondary loop into a
4 substantially linear configuration.

1 11. (previously presented) The vessel support system of claim 9,
2 wherein said wire comprises a multi-filar wire.

1 12. (cancelled)

1 13. (cancelled)

1 14. (cancelled)

1 15. (presently amended) The procedure of claim 5 wherein said step
2 of providing a preformed hoop includes the step of providing a
3 longitudinal an open space within and contiguous with sections of
4 said preformed hoop having a second coil longitudinal loop spacing
5 less than said open space, said open space being of sufficient size
6 to permit fluid flow into an artery side branch.

1 16. (previously presented) The procedure of claim 15, further
2 including the step of orienting said open space within said artery
3 to align said open space with said artery side branch.

1 17. (cancelled)

1 18. (cancelled)